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ABSTRACT

This report discusses the outcomes of a study that investigated whether the Accelerated Reader program meets its claim to motivate and improve reading achievement for all students, including those with special needs. The Accelerated Reader program is a computer-based reading management system that includes a database of thousands of books ranging in reading levels from one to twelve. Students earn points to be redeemed for prizes or other incentives as they read books and pass a comprehension test on each book. The study involved four classes of middle school students with learning disabilities and the control group, which was made up of two classes that did not use Accelerated Reader. Students in the treatment group increased reading levels from a mean score of 2.81 to 3.50 on the Standardized Test for Assessment of Reading (STAR). These students improved attitudes by 13 percent on the Estes Reading Attitude Scale. Students in the control group decreased reading levels from 4.75 to 4.25 on the STAR test and improved attitudes by only 2.6 percent on the Estes instrument. Findings indicate that the Accelerated Reader program improved reading comprehension and attitudes toward reading of the participating students with learning disabilities. (Contains 50 references and a sample of the Estes Reading Attitude Scale.) (CR)

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ED 434 431

THE ACCELERATED READER PROGRAM, READING ACHIEVEMENT, AND ATTITUDES OF STUDENTS WITH LEARNING DISABILITIES

by

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Presented in Partial Fulfillment of the Requirements for
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ABSTRACT

THE ACCELERATED READER PROGRAM, READING ACHIEVEMENT, AND ATTITUDES OF STUDENTS WITH LEARNING DISABILITIES

The purpose of this study was to determine if the Accelerated Reader program meets its claim to motivate and improve reading achievement for all students including those with special needs. The study involved four classes of middle school students with learning disabilities. The control group was made up of two classes that did not use Accelerated Reader. The treatment group consisted of two classes that began using the program during the current school year. The study focused on a pretest/posttest design to determine changes in reading achievement and attitudes. Students in the treatment group increased reading levels from a mean score of 2.81 to 3.50 on the Standardized Test for Assessment of Reading (STAR). These students improved attitude by 13 percent on the Estes Reading Attitude Scale. Students in the control group decreased reading levels from 4.75 to 4.25 on the STAR test. These students improved attitude by 2.6 percent on the Estes instrument. The study provided evidence that the Accelerated Reader program improves reading comprehension and attitudes toward reading with this group of students with learning disabilities.

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CHAPTER I

INTRODUCTION

"'Tis the good reader that makes the good book; in every book he finds passages...unmistakably meant for his ear." Ralph Waldo Emerson

Overview

Educators across the country share the concern that students are not developing lifetime reading skills and are not motivated to read. The literacy rate in the United States is high, but the aliteracy rate, being able to read but uninterested in doing so, is also high (Beers, 1996).

Motivation is a key to learning to read. Jim Trelease (1995), author of The Read-Aloud Handbook, offers seminars on reading motivation. When students are motivated to read, they will read more books and, in turn, become more successful readers. The objective of lifelong reading begins with making reading a pleasurable experience. "Predictably, poor readers have unfavorable attitudes toward reading" (Anderson, Hiebert, Scott, & Wilkinson, 1985, p. 15).

Computer-based reading management systems are designed to motivate students to read. One of the most widely used electronic reading systems is the Accelerated Reader program (Advantage Learning Systems, Inc., 1986). The program focuses on a database of thousands of books ranging in reading levels from

one to twelve. It provides teachers with specific data on students' reading levels and their understanding of what they are reading. Students earn points to be redeemed for prizes or other incentives as they read books and pass a comprehension test on each book. The combination of points earned and test scores gives teachers a way to monitor achievement and plan interventions if needed. Accelerated Reader offers twenty-one different reports for teachers, students, and parents.

The Accelerated Reader program (Accelerated Reader, 1998) claims to motivate students in all grades, from gifted to special needs, and helps them improve their reading skills. Advantage Learning Systems further maintains that educators attending the staff development seminars "are transforming their schools by creating highly motivated readers; enhanced critical thinking skills; higher test scores and better school attendance" (Institute of Academic Excellence, 1999, p. 2). Since 1994 more than 100,000 educators across the country have attended the training seminars.

A strong argument in favor of Accelerated Reader is its focus on self-selected, literature-based reading. Students have the freedom to select books from the extensive list of titles and learn reading skills using these books rather than basal readers. An elementary school student shared, "The Accelerated Reader program challenged me to read more books every day. I couldn't put books down. Reading different books helped me to experience all kinds of new adventures" (Accelerated Reader, 1998, p. 1).

The Accelerated Reader program also stresses reading practice during the school day. Research by the Institute for Academic Excellence, (1996) a company formed to evaluate Accelerated Reader, revealed that the average amount of time

spent on reading practice for all grades is 7.1 minutes per day (Paul, 1996). The purpose of additional reading time is to improve reading skills and encourage students to progress to higher reading levels. The 1994 National Assessment of Educational Progress Study by the Department of Education ranked participating states in terms of reading performance. Data was evaluated comparing the rankings and reading practice for three thousand students in the study. A comparison between the top five percent of students and the bottom five percent indicated that "the top readers read 144 times more than the bottom readers" (p. 20).

Statement of the Problem

"Workbook and skill sheet activities consume a large proportion of the time allocated to reading instruction in most American classrooms, despite the fact that there is little evidence that these activities are related to reading achievement" (Anderson, et al., 1985, p. 119). A comparison between students in Japan, Taiwan, and the United States, showed that American children were among the poorest readers in the three countries (Anderson, et al., 1985).

Students with learning disabilities are at an even greater disadvantage with reading skills. These students have a "neurological disorder in which a person's brain works or is structured differently" (Tools for Living with Learning Disabilities, 1998, p. 1). "While neurological impairments can affect any area of brain function, the disabilities most likely to cause academic problems are those affecting visual perception, language processing, fine motor skills, and the ability to focus attention" (Smith & Strick, 1997, p. 6). According to the National Institute of Health, one in

seven children has a learning disability and 80 percent have difficulty with reading skills. Educators are challenged to stimulate academic achievement and motivation in students with learning disabilities.

Purpose of the Study

The purpose of this study was to determine if the Accelerated Reader program has an effect on the reading achievement and attitudes toward reading of students who have learning disabilities. A control group made up of two special education classes had never used the Accelerated Reader program. An intervention group of two other classes had been using the program two months before the study began. The goal was to identify differences between the two groups in the areas of achievement and attitude. Quantitative measurement was determined using a pretest and posttest design. The Standardized Test for Assessment of Reading (STAR), designed by Advantage Learning Systems in 1996, was given to all students at the beginning and end of the research to determine if changes in reading achievement occurred. The Estes Attitude Scale (Estes, 1971), a scale with demonstrated reliability and validity, was given to all students at the beginning and end of the research to find out if attitudes toward reading were affected by Accelerated Reader.

Definition of Terms

The following terms were used throughout this study. They are defined as follows:

Accelerated Reader. This term refers to a computer-managed reading program for the purpose of encouraging students to read and to improve their comprehension. It is designed to help teachers motivate and manage literature-based reading among students of all abilities. (Accelerated Reader, 1998).

Aliteracy. This term refers to the quality or state of being able to read but uninterested in doing so (Beers, 1996).

Functional Illiteracy. This term refers to the "the inability of an individual to respond to practical reading tasks. Such tasks include ordering from a menu, understanding newspaper articles, ordering from a department store catalog, and using want ads correctly" (Dejnozka & Kapel, 1991, p. 232). A functional illiterate person can also be defined as "a person over 16 years of age who cannot read at the sixth grade reading level" (Dejnozka & Kapel, 1991, p. 232).

Illiteracy. This term refers to "the inability to read or write at a level expected by one's culture" (Shafritz, Koeppe, & Soper, 1988, p. 239).

Instructional Reading Level (IRL). This term refers to "a criterion-referenced score that estimates the appropriate level of reading material for instruction" (Advantage Learning Systems, 1998, p. 14). IRLs range from one to twelve and correlate to grade levels. "A sixth-grade student with an IRL of 4 would benefit the most from instructional materials prepared at the fourth-grade reading level" (p. 14).

Learning Disability. This term refers to "neurological handicaps that affect the brain's ability to understand, remember, or communicate information" (Smith & Strick, 1997, p. 5).

Literacy. This term, defined by the National Literacy Act of 1991, refers to "an individual's ability to read, write, or speak in English, and to compute and solve problems at levels of proficiency necessary to function on the job and in society, to achieve one's goals, and develop one's knowledge and potential" (cited in Ellingson, 1998, p. 52).

Sight Vocabulary. This term refers to "the words that a student is able to read and understand without the aid of reference material" (Shafritz, et al., 1988, p. 432).

STAR. This term refers to an electronic diagnostic reading program used to determine students' optimal reading levels and their progress during a period of time. It serves two purposes: "provides teachers with quick and accurate estimates of students' instructional reading levels…and offers sound estimates of students' reading levels relative to national norms" (Advantage Learning Systems, 1986).

CHAPTER 2

REVIEW OF THE LITERATURE

Overview

Reading is an essential skill that affects academic achievement in all areas. Many educators consider it a cornerstone for success in school and throughout life. Webster's New World Dictionary defines the word 'read' as: "to get the meaning of (writing) by interpreting the characters; to utter aloud (written matter)" (Webster's, 1984, p. 497).

The report, Becoming a Nation of Readers, states, "Reading is a process in which information from the text and the knowledge possessed by the reader act together to produce meaning" (Anderson, Hiebert, Scott, & Wilkinson, 1985, p. 8). Words are put together to form meaning for sentences and paragraphs. Readers combine the text with previous knowledge to construct new meaning. A "student's comprehension may actually increase as a more difficult passage is read simply because prior knowledge is more extensive" (Lazarus & McKenna, 1994, p. 212). Skilled readers realize they are involved in the process to create meaning. The process continues as the base of reading comprehension builds and expands. Comprehension is "a gradual, emerging process in which students grow in comprehension abilities by processing text in a generative manner, building on their own experiences, knowledges, and values" (Flood & Lapp, 1990, p. 492).

Children with learning disabilities process information differently. They may be slow to learn the connection between letters and sounds or confuse basic words. A common learning disability is dyslexia causing a person to make "consistent reading and spelling errors including letter reversals (b/d), inversions (m/w), transpositions (felt/left), and substitutions (house/home)" (Early Warning Signs, 1997, p. 2).

Research on Reading Instruction

In response to widespread criticism of the American educational system, John Goodlad (1984), author of A Place Called School, researched the effectiveness of public schools. In the area of reading instruction, he found that basic skills formed the curriculum in the early grades and repetition of instruction was the focus of junior high and senior high years. The repetitive reinforcement left little time for new information to arouse interest. Goodlad noted that students spent much of their class time doing seatwork or listening to teacher lectures.

The World Almanac and Book of Facts 1998 reported that the literacy rate in the United States is 96 percent. A United States 1992 National Adult Literacy Survey (cited in Boling, 1998) however, revealed that 46-51 percent of adults, more than 90 million people, performed within the two lowest levels of functional literacy. The Literacy Volunteers of America, Inc. (cited in Boling, 1998) defined level one in the government survey as "functional illiteracy: the inability to effectively use reading, speaking, writing, and computational skills in everyday life situations" (p. 86).

More and more students are leaving school without the necessary skills to process information. "Although many American children do learn to read, the number of poor readers, aliterates, and illiterates is a national disgrace" (Carbo, 1987, p. 199). Concerns are increasing that indicate current teaching methods and assessment practices are not adequately meeting the objectives of improved reading achievement. "The most common approaches to the teaching of reading in the U.S. classrooms – worksheets, drill, and phonics – are ineffective for many students" (Carbo, 1987, p. 198).

Lazarus and McKenna (1994) analyzed standardized tests used to assess reading comprehension for special education students. The comprehension sub-tests were evaluated in regards to their sensitivity to prior knowledge, information integration, and prose organization. Prior knowledge of a topic makes it easier for a student to comprehend new information on the same topic. The importance of prior knowledge has been demonstrated in research studies with both good and poor readers (Lazarus & McKenna, 1994). Integration of information is a representation of meaning by the reader from a large selection of text as opposed to short, individual sentences. Comprehension is noted by asking inferential questions. Prose organization may influence reading comprehension depending on the reader's preference. Beginning readers are more familiar with narrative patterns, but skilled readers may prefer expository selections found in textbooks.

The results of Lazarus' and McKenna's (1994) study revealed that standardized reading tests measuring reading comprehension merely assess basic vocabulary. They provide a superficial view of a functional reader and do not

accurately measure reading level. "All reading comprehension tests are essentially nothing more than samples of indicators of 'real reading'" (Farr, 1986, p. 33). Accurate assessment of reading skills for students with learning disabilities is needed.

Research on Computer-Assisted Instruction

Various new approaches for teaching reading have been implemented to improve comprehension. One of these approaches is computer-assisted instruction. A research study involved 25 students with mild disabilities who used Apple IIe software to receive instruction in decoding, sight word recognition, and comprehension (Marston, Deno, Kim, Kiment, & Rogers, 1995). An equal number of students was instructed using other approaches: direct instruction, peer tutoring, effective teaching method, and reciprocal teaching. Achievement gains were recorded in the computer-assisted and direct instruction approaches, but the highest level of student involvement was demonstrated through computer-assisted instruction.

Cutler and Truss (1989) also investigated the implementation of computer-assisted instruction with reading deficient teenagers. They theorized that an inadequate sight vocabulary misdiagnosed students' reading abilities. Their research involved a computer system that provided immediate assistance with pronunciations and definitions of unknown words. The results indicated that the system helped the students develop confidence in their reading ability and increased their reading rate. Students' personal comments about the study were positive and enthusiastic.

Studies have been undertaken involving computers and special education students (cited in Holzberg, 1995; Marston, et al., 1995; cited in Peak & Dewalt,

1993). The objective of the Special Education Technology Resource Center in Boston, Massachusetts is to use technology to support the various student learning styles. A grant (cited in Holzberg, 1995) from Apple Computer, Inc. was used to purchase nineteen Macintosh computers to improve writing skills. Students involved in the project demonstrated increased self-esteem and had the opportunity to see scripts they had written portrayed on stage. "When educators treat children with reading and writing disabilities as 'gifted' rather than 'handicapped,' their performance is likely to surprise you" (p. 21).

Researchers involved in a technology project with computer software and at-risk eighth grade students asked the participants why they responded so well to the computers (Wepner, 1990). Students' responses indicated that they liked the feeling of being in control over the computer and the ability to move back and forth between screens and menus of their own choosing. Students felt that the graphics and animation in the programs were entertaining and made reading come alive. Several students commented that the computer let them work at their own pace because of the private setting. They did not feel pressure to keep up with a group. The students also liked the immediate feedback from the computer. The programs let them see how well they were progressing and gave them the option of redoing a section. Many of these students had a history of failure in school. The reinforcing lessons of the software served to enhance their self-esteem by seeing their accomplishments via the print option. Wepner stressed that computer success depends on software that is cognitively suitable, recognizes learning styles, and encourages reading.

Computer-assisted instruction has brought motivation to light as a key to academic achievement. Schools measure reading achievement by a variety of assessment tools, but few evaluate reading attitudes. Research shows that motivation to read and the amount of voluntary reading time determine reading skill. "The value of reading ability lies in its use rather than its possession" (Estes, 1971, p. 135). Students who spend time reading independently outperform students who do not read on their own (Flood & Lapp, 1990). Bruneau (1986) observed, "When attitude is favorable, comprehension is at peak efficiency" (p. 100). Schools stress basic reading skills, but many do not provide time for reading enjoyment. Jim Trelease (1995) states, "We've taught children *how* to read but forgotten to teach them to *want* to read" (p. 7). The objective of lifelong reading begins with making reading a pleasurable experience for students of all ages.

Research on Reading Attitude

Aliteracy, those who can read but do not, is a serious problem in our country today. Beers (1996) conducted an in-depth qualitative research study on aliteracy. The study identified three types of aliterate readers: dormant, uncommitted, and unmotivated. Dormant readers like to read, but they are too busy to sit down and enjoy a book. Other activities consume their reading time. Uncommitted readers take the view that reading is a skill and requires a lot of energy to understand the words and meanings. They are not interested in reading, but are not opposed to other students' enjoyment of books. Unmotivated readers see reading as "word-calling" and have a very negative attitude toward reading and those who enjoy it. These

readers make a conscious commitment not to read. "Reading seems pretty boring, pretty useless. I'm just not motivated to do it" (Beers, 1996, p. 33).

Beers' (1996) research revealed that dormant readers remembered positive early experiences with books. Their parents read to them on a regular basis and exposed them to books at home and in libraries. The uncommitted and unmotivated readers recalled that read-aloud time was infrequent and unentertaining. They had very few opportunities to enjoy books as young children. When Beers asked these readers how their opinions could be changed about reading, they offered several suggestions. The library collection of thousands of books overwhelmed them. They preferred nonfiction books with lots of illustrations rather than the teachers' fiction choices. They liked to hear a complete story read aloud to them and enjoyed creating a visual activity following the story, such as drawing the setting or acting out a scene. "Continued emphasis on a personal response to reading will help persuade students that it is more than just a skill" (Beers, 1996, p. 112).

Finn (1999) examined Beers' research on aliteracy and applied it to a group of seventh graders. Finn noted three factors that affected students' motivation to read. First, lack of family support was stressed as a major factor. "Sixty percent of American households did not buy even one book during a one-year period between 1990 and 1991" (Finn, 1999, p. 6). A second factor affecting motivation was the choice in selection of reading materials. Students expressed excitement and were more positive about sharing books when given the freedom to choose their reading selections. A third factor was time and value. "Students view reading as less important than watching TV, listening to music, or participating in sports or hobbies"

(Finn, 1999, p. 6). Finn acknowledged that educators need to be challenged to address these factors and guide students to a literate environment.

Reading Attitude Surveys

An inherent problem with evaluating attitudes toward reading has been an effective way to measure it. In order to combat this problem, Estes (1971) designed a scale to determine attitudes toward reading. The scale has demonstrated a high reliability value through repeated administrations. Educators are encouraged to administer the scale on a pretest and posttest basis. The objective is to determine if changes in students' attitudes have occurred. This is achieved by subtracting the students' early scores from later ones.

Turner (1993) used the Estes Scale to measure reading attitudes in a study with middle school underachievers. The instrument was modified to create a similar scale and short answer survey specifically for the students involved in the research. Turner also developed a teacher survey based on observation of students' behavior and classroom activities focused on reading.

Another instrument, the Elementary Reading Attitude Survey (ERAS), was used in a study to measure attitudes toward leisure reading and academic reading (Fitzgibbons, 1997). Students in twenty elementary and ten middle schools completed the survey as a pretest and posttest for the Reading Excitement and Paperbacks Project (REAP). Fitzgibbons described the survey as a "student-friendly" test depicting the cartoon character, Garfield, in the rating scale. Garfield's frowning face indicated a response of (1) and his very happy face signified the

response (4). The instrument was designed for elementary students, but Fitzgibbons considered it appropriate for middle school students.

Research on Electronic Reading Management Systems

The Electronic Bookshelf (cited in Yohe, 1997) is a computerized reading management system designed to motivate students to read. Students may choose a book from a master list of titles in the system's database and take a comprehension test on the computer after reading the book. The computer gives immediate feedback of test results and allows the student to retake a test if desired. Teachers may print reports to monitor students' reading progress or print a test for a title read together in class.

Another reading management program that combines the self-selection of reading materials with computer-assisted instruction is Accelerated Reader (Advantage Learning Company, 1984). The Accelerated Reader test database consists of 15,000 titles with 60 percent of them being fiction (Keller, 1998). Schools purchase test disks containing titles and load the software into a computer system. Students take a computerized test on the book within 24 hours of completion. The titles range from Level 1 to Level 12 making the program suitable for regular education as well as special education students. If a student passes a quiz, he or she earns points that translate into a reward that has been determined by the school. The points accumulate as the student reads more books and passes more tests.

The foundation of the Accelerated Reader program is self-selected, literature-based reading. A report from the Institute for Academic Excellence (1997), the

research department of Accelerated Reader, examined the relationship between literature-based reading and critical thinking. "Reading comprehension is not a passive consumption of meaning, but requires the active, thoughtful participation of the reader to create patterns of meaning" (p. 4). Critical thinking skills are needed to evaluate the elements of the story and synthesize plot and theme from details of the text.

Angeletti (1991) made the transition from basal readers to a literature-based program and observed second grade students progress from simply retelling a story to making inferences, drawing conclusions, and analyzing characters from a story. The students' reading comprehension improved as they stopped memorizing details and started synthesizing elements of the story. Angeletti noted, also, that morale increased because students appreciated the freedom of self-selection. Students remarked that the class discussions about books were important and the sessions helped them with their writing.

A small rural school in Italy, Texas, implemented the Accelerated Reader program and increased scores on standardized tests by 12 percent the first year and 15 percent the second year (Roland, 1990). The literature-based program also increased circulation of library books by 48 percent after two years. Teachers' observations revealed that students began talking about books and recommending titles to other students. In one class students made a knot in their "book rope" every time they read a book and passed a comprehension test on the book. Roland credited students' excitement about reading and improved test scores to the Accelerated Reader program.

Paul (1996), one of the creators of the Accelerated Reader program, conducted a study of six thousand schools regarding student attendance and standardized test scores. The results of the study showed that students in the schools using Accelerated Reader had significantly higher reading scores as well as higher writing, math, science, and social studies test scores than the students in the non-Accelerated Reader schools. The greatest achievement gains were made by students with the lowest reading ability. Sixty-one percent of the Accelerated Reader schools had higher attendance rates than non-Accelerated Reader schools.

Paul implied that Accelerated Reader had a direct influence on improved academic achievement. Success in reading improves self-esteem; improved self-esteem increases cognitive skills; increased cognitive skills result in successful students.

In a high school in Pennsylvania, Everhart (1995) allowed a group of students to read the same book and formulate thirty questions related to the story. Everhart reviewed the questions and used them to add a test on the book to the system's database. The construction of the quizzes by the students required high-level critical thinking skills.

Wheaton (1997) distributed a survey to 150 media specialists in Georgia to determine how the Accelerated Reader program affected library book circulation. The survey consisted of questions about media centers and students' reading interests. Ninety-eight surveys were returned, 59 of them from media specialists using the Accelerated Reader program. Thirty media specialists reported an overall increase in book circulation and 24 indicated an increase solely in circulation of books supported

by the program. The results showed that media centers using Accelerated Reader circulate more books than schools not using the program.

Turner (1993) conducted a research study with underachievers in Franklin, New Jersey. After surveying students' attitudes using the Estes Scale, examining library circulation statistics, and observing reading behavior, Turner realized that reading was a low priority. This was particularly true for upper elementary students at Franklin Elementary. Turner noted that as students progress from grade to grade, their motivation to read, time spent in independent reading, and use of the library decrease. Several interventions were designed to improve achievement. The strategies used were: Accelerated Reader, sustained silent reading, a read-aloud program, a home reading contract, public library membership, and a novel-based reading approach. The interventions were also designed to improve attitudes toward reading.

Educators (Carbo, 1987; Everhart, 1995; Finn, 1999) agree with Turner that "students must be given opportunities to read and enjoy the activity before attitudes can improve and thus positively influence reading growth and achievement" (p. 33). The Accelerated Reader intervention motivated students to spend more time reading and sparked interest in the selection of books. The tangible incentives in combination with praise from the teacher encouraged students' enjoyment of reading.

The results of Turner's (1993) study showed that 82 percent of the 46 underachievers improved reading comprehension on the Comprehensive Test of Basic Skills and 52 percent met their anticipated achievement on the Test of

Cognitive Skills. The study implied that increased reading activity has a positive impact on reading achievement.

A study on the relationship between reading practice and academic achievement was conducted by Paul (1996), a founder of Accelerated Reader. The research involved 659,214 students in grades K-12 regarding their in-school reading time. Paul's theory was concise, "The more you read, the better you read" (p. 6). Previous quantitative measurement proved difficult on a large scale as it had relied solely on students' record-keeping and teacher observation. The quantitative study measured reading progress using the computerized Accelerated Reader system. The system assigns points to each book based on the Flesch-Kincaid's Readability Index.

Paul's (1996) study produced five major findings.

1. In-school reading practice drops dramatically in middle and high school. Ninth grade students have the same amount of reading practice time as kindergartners - 3.6 minutes per day.

2. Students in the top five percent read 144 times more than students in the bottom five percent.

3. Reading practice drastically varies according to the school's population. Smaller schools spend twice as much time reading as schools with populations of more than 1000 students.

4. Students in public schools spend less time reading than students in private schools.

5. Students in the high-performing states of the National Assessment of Educational Progress (NAEP) Study read significantly more than students in the low-performing states.

The report concluded that the amount of in-school, literature-based reading has a direct impact on students' reading performance.

Hamilton (1997) observed the difference that Accelerated Reader has made with English as a Second Language (ESL) high school students. The ESL students were observed spending time "practicing" literature-based reading and became fluent in English by the time they graduated. The top reader in the Accelerated Reader program remarked that she began reading for the rewards. She liked the idea of earning pizzas, videos, and U.S. savings bonds. She was amazed to discover later that she liked reading. Hamilton commented, "Although I would prefer that extrinsic rewards not be needed to inspire reading, the fact is that rewards work" (p. 52). No statistics were given to support the findings, but the researcher (Hamilton, 1997) stated that ESL students showed considerable improvement on their reading test scores after using the Accelerated Reader program for a full year.

Another study by Peak and Dewalt (1993) compared two groups of students within the Gaston County School System. One group used the Accelerated Reader program over a five-year period while the other group did not. Students in the intervention group had an average 18 point gain on the California Achievement Test (CAT) for the first three years and an 8.5 point gain for the next two years. Students in the control group showed an average 10.3 gain on the California Achievement Test for three years and a 4.0 yearly gain for two years. The group using Accelerated

Reader initially had a lower mean score on the CAT; but, at the end of the study, the students who had been using the program for five years had a significantly higher mean total reading score (Peak & Dewalt, 1993, p.12). Circulation of library books was also higher in the school using the Accelerated Reader program. Comments from the students regarding the advantages of the program were more books of good quality, improved vocabulary, fair and accurate system, change from book reports, and immediate reinforcement. The researchers (Peak & Dewalt, 1993) stressed that "the computer itself does not increase actual ability; however, the excitement, response rate, and 'newness' that it generates for the students compared to conventional methods of reading assessment is an advantage in itself" (p.12).

The Accelerated Reader program is being used internationally as well. In two primary schools in Aberdeen, Scotland, a study (Vollands, 1996) was done to assess achievement and attitudes. Each school contained a control group and an experimental group using the Accelerated Reader program. The two goals of the study were to determine, first, if the Accelerated Reader program improved academic achievement and, second, if it increased motivation.

All of the students began the study by taking the Shortened Edinburgh Reading Test (cited in Vollands, 1996) to measure reading ability. A random sample of twelve children from each group was also tested on the Neale Anaylsis of Reading Ability (cited in Vollands, 1996) to obtain more information on reading accuracy and comprehension. Attitudes were measured using the Elementary Reading Attitude Survey (cited in Vollands, 1996) and attendance was monitored. At the end of the six-month intervention period, results from the posttest revealed a statistically

significant increase by the Accelerated Reader group on the Edinburgh measure. The mean score on the experimental group's pretest was 89.96 and the mean score on the posttest was 98.20. The control group measured 87.42 mean score on the Edinburgh pretest and 90.75 mean score on the posttest. The results showed a statistically significant decrease on the Neale instrument by the control group during the course of the study. The pretest measured the control group in terms of mean reading age level at eight years of age. The posttest results measured the reading age level at seven years. The mean reading level of students in the Accelerated Reader group maintained a reading age of eight years.

The attitude survey also revealed that the Accelerated Reader group showed higher gains in attitude toward reading as compared to the control group. Qualitative data from teachers and students revealed that children in the experimental group displayed better concentration and more motivation at the end of the study. A small sample of children in the Accelerated Reader group remarked that they enjoyed using the computer and reading different types of books. Only one child in the study remarked that the program was not enjoyable.

Essential to the success of the program is its implementation (Vollands, 1996). Variation in the amount of reading practice time, teacher response to at-risk reports, and monitoring of students to higher reading levels have an effect on the program's results. In schools that boast strong teacher and parent support, reading test scores are improving more rapidly than before implementation of the program. This dedicated approach requires teachers to schedule sixty minutes of individualized reading per day along with regular monitoring of tests and reading logs. When time

is set aside for independent reading and monitoring, reading achievement improves (Hamilton, 1997; Institute of Academic Excellence, 1997; Paul, 1996; Vollands, 1996).

Other Perspectives on Accelerated Reader

Not all studies support the positive results demonstrated by some researchers (Hamilton, 1997; Paul, 1996; Peak & Dewalt, 1993; Roland, 1990; Vollands, 1996). Mathis (1996) conducted a study using Accelerated Reader to determine if reading comprehension scores on the Stanford Achievement Test (SAT) of sixth-grade students were affected after being exposed for one year to the Accelerated Reader program. The study involved 37 students and measured the difference between their fifth grade scores without the program and sixth grade scores after using Accelerated Reader. Mathis determined that there was no significant increase in reading comprehension statistics. In the discussion section of the study, however, it was noted that students selected books below grade level for independent reading. The lower level books therefore had little impact on reading comprehension improvement. The goal of the Accelerated Reader program is to increase students' reading ability by encouraging them to progress to higher reading levels as they demonstrate competence.

Carter (1996) and other opponents believe computerized reading management systems devalue reading. The accumulation of points for reading books means "reading cannot stand alone as an enjoyable pursuit" (p. 23). Carter stated that children are only motivated to earn, not learn. The misplaced motivation will

eventually dissolve. Librarians have commented that students are limiting their reading selections to Accelerated Reader titles only and miss a variety of books in the process. In some schools teachers restrict their students' reading to books on an Accelerated Reader list. Carter believes teachers and librarians must make a choice: to manage motivational systems or to promote books and reading.

Rosenheck (1996) conducted a study on how the Accelerated Reader program impacted attitudes toward reading and the frequency of library use. Fifth graders in three schools in Lee County, Florida were surveyed. One school had a voluntary Accelerated Reader program; another had a mandatory Accelerated Reader program; the other did not use the Accelerated Reader program. A two-page survey instrument was distributed to students at all of the schools and a total of 222 surveys were returned. The results showed no statistical difference between the three schools in regard to reading attitude or use of the media center. Rosenheck noted that although the Accelerated Reader program indicated no impact on reading attitude or library use in the study, the majority of fifth graders enjoyed reading to begin with and were satisfied with the media center before participating in the study.

Summary

According to reading professionals (Anderson, et al., 1984; Trelease, 1995), lifetime readers do not just happen. Lesesne (1991) reviewed the literature and compiled fifty years of research regarding the development of a love for reading. Five key points were consistently addressed in the literature. First, reading was seen as a habit that must be cultivated. Teachers must move away from the textbook to

books selected by students for pleasure. Second, students benefited from role models who were readers. Teachers and parents who imparted enthusiasm and acceptance of books encouraged the development of lifetime readers. A third point stressed that students need independent reading time in school. Many factors compete for students' time.

One survey (Lesesne, 1991) of middle school students revealed that 3-6 hours per day were spent watching television, but less than one hour was spent on reading. "For the majority of children, reading from books occupied one percent of their free time, or less" (Anderson, et al., 1985, p. 77). A fourth point revealed that individualized reading focusing on reading habits rather than skills develops lifetime readers. When students have the opportunity to select books of interest to them, they are often more motivated to read. A final key point was that a response-based curriculum encouraged lifetime reading. Students need opportunities to respond to materials in ways such as think-aloud and read-aloud techniques. Personal response to literature is a starting point for critical thinking skills.

Reading is a constructive process. The reader starts with a word, then a sentence and finally progresses to a selection. Motivation is the stimulus to continue the process and expand reading skills and achievement. The Accelerated Reader program is a tool designed for readers to improve their reading performance and increase comprehension. It has been demonstrated to improve reading attitudes. Researchers agree that teachers and parents have a responsibility to promote reading, "Literacy is power" (Turner, 1993, p. 33).

CHAPTER 3

METHODOLOGY

Overview

The objective of the research project was to determine the effects of the Accelerated Reader program (Advantage Learning Systems, 1993) on academic achievement and attitudes of students with learning disabilities. The computer-based reading management system is designed to motivate students to read.

The study was conducted over a period of four months from February to May and involved twenty-eight students and four teachers within the Gwinnett County Public School System in Georgia. Two assessment instruments were used to evaluate progress from the beginning of the study to the end. Students were tested informally in their own classroom setting to eliminate any anxiety about the assessment. All data were analyzed in a private setting to maintain the confidentiality of the participants.

Demographics

The Gwinnett County School System is one of the fastest growing systems in the nation (Gwinnett County Public Schools, 1999). The 1998-99 enrollment is 98,537. Student enrollment increases by approximately 4,000 students each year.

The school system consists of 48 elementary schools, 16 middle schools, 13 high schools, and 5 special entities. A beginning teacher earns approximately $30,786. The Gwinnett County school system is the largest employer in Gwinnett County.

Gwinnett County is a rapidly growing, affluent community in metro Atlanta, Georgia. The county is expected to reach a population of 700,000 by the year 2010 (Demographics, 1999). The median household income is more than $48,000 and nearly a third of adults in Gwinnett have a college degree. "The county has a reputation for white, upper middle class families with children" (p. 2), but the minority population is growing. Currently minority citizens make up less than ten percent of Gwinnett County's population.

Participants

Students in self-contained learning disabilities classes in Gwinnett County, Georgia, participated in this study. The students were in grades six through eight. One class from School A and another class from School B comprised the control group. Students from these two schools had never used the Accelerated Reader program. Two self-contained learning disabilities classes at School C formed the intervention group. These two classes began using Accelerated Reader in October 1998.

The number of participants in both groups was determined by returned consent forms. (See Appendix A.) Both parent and student signatures were required on the form for participation. The control group consisted of twelve students and the

intervention group consisted of sixteen students. A larger sample size was desired, but most middle schools in Gwinnett County already use Accelerated Reader with their population.

Assessment Instruments

Two assessment instruments were used to measure reading achievement and attitudes toward reading. Both instruments were used in a pretest and posttest design.

The first instrument was the STAR Reading Test (Advantage Learning Systems, 1996). Instructions for administering the test are included in the study (See Appendix B). This computer-adaptive test provides reading scores of students' instructional reading levels. The instructional reading level (IRL) is the specific level at which a student recognizes words and understands the text. STAR calculates an IRL by determining the highest level at which a student can answer 80 percent or more test items correctly. The STAR software helps teachers identify students who need remediation or enrichment. Reports that show reading performance and growth are available to be printed.

The STAR test also reports an estimate of reading levels relative to national norms. "The reliability estimates by grade range from the high .80s to the low-mid .90s" (Understanding Reliability and Validity, 1998, p. 4). The reliability of STAR was evaluated using a test-retest method. "STAR uses a proprietary Bayesian statistical model to convert each individual student's test results to scores on a common scale" (p. 13). The converted scores are named Scaled Scores. Estimates for the reliability of the STAR test were calculated using Instructional Reading Levels

and Scaled Scores. A total of 34,446 students were tested at least two times using the STAR software. The median date for the first test was April 25, 1996. The median date for the second test was April 30, 1996. No measurable difference between the test scores was noted.

The validity of the STAR test has also been demonstrated (Understanding Reliability and Validity, 1998). Standardized reading tests were used to compute the correlation coefficients with STAR results. Percentile ranks from STAR and other test instruments were converted to Normal Curve Equivalents that were then used to compute correlation coefficients. The correlation coefficients between STAR and the Iowa Test of Basic Skills ranged from .69 to .87 for grades five through eight. The correlation coefficients between STAR and the California Achievement Test ranged from .65 to .85 in grades five through eight. The data gathered to determine correlation coefficients with STAR included more than 20,000 tests.

Each student who participated in the study took a STAR test at the beginning and at the end of the research project. The two scores were compared to determine changes in reading achievement.

The second assessment instrument used in the research study was the Estes Reading Attitude Scale (Estes, 1971) (See Appendix C). The twenty-question scale is made up of twelve negative items and eight positive items. Response values are assigned numerical values. A "strongly agree" response to a positive statement is valued at five points. A "strongly agree" response to a negative statement is valued at one point. Estes included directions in his November 1971 article in the Journal of Reading on how to score the attitude scale. He created a table noting the items that

were positive and those that were negative. He then added five columns containing numerical values to correlate to the five responses. He assigned numerical values for negative statements as A=1; B=2; C=3; D=4; E=5. Estes designated positive statements in reverse: A=5; B=4; C=3; D=2; E=1. Early scores are subtracted from later scores to quantitatively measure changes in students' attitudes. Students with more positive attitudes have a higher score.

Estes initially used the scale in 1969 with a group of 283 students in grades three through twelve. Two heterogeneous classrooms at each grade level were given the instrument. Reliability data for the scale was computed using the split-half method. The reliability value for the scale was .92 in grades three through six and .96 in grades seven through twelve. The degree of significance was <.001.

The scale was administered to students in this research study using a pretest and posttest design. Participants were given specific instructions that the scale would not be graded and there were no right or wrong answers. The administrator requested the participants to be completely honest about their thoughts on reading.

Data Collection

Approval to collect data for this study was given by the Institutional Review Board of Georgia State University and the Research Committee of the Gwinnett County Public School System. Agreement was made to keep all data confidential and destroy all records within thirty days of completion of the study. Pretests were given to participating students in the morning period during the first week in February 1999.

Students completed the attitude survey prior to the computerized STAR pretest. The total time for both pretests was approximately twenty minutes. All students completed the two posttests during the last week of school in May 1999.

Data Analysis

The research data produced by the two instruments was analyzed. A copy of the STAR summary report for the pretest and posttest was printed. The students' instructional reading levels for both tests were compared. An example of a summary report is included in this study (See Appendix D).

The Estes Attitude Scale (Estes, 1971) was administered to compare the students' pretests and posttests. The students' pretests were tabulated using Estes' measurement table (See Appendix E) to reveal their attitudes toward reading at the beginning of the study. The posttests were also scored using the same table. Early scores were subtracted from the later scores to measure changes in attitudes.

Summary

The assessment instruments used in this research study were appropriate for determining if Accelerated Reader had an effect on students' reading achievement and their attitude toward reading. Students with learning disabilities were the focus of the study. The results of the study are presented in Chapter 4.

CHAPTER 4

RESULTS

Overview

Students with learning disabilities were involved in the study to determine if the Accelerated Reader program has an effect on reading achievement and attitudes toward reading. A treatment group consisting of sixteen middle school students used the computerized reading management system. A control group of twelve middle school students did not use the program.

The study took place over a four-month period and followed a pretest-posttest design. Students in both groups completed a STAR reading comprehension test at the beginning and conclusion of the study. Students were also administered the Estes Reading Attitude Scale at the beginning and end of the project.

Data Analysis

Computer data analysis was completed using SPSS 8.0 for Windows. Table 1 shows the summary of data results after the raw scores of pretest and posttest figures had been tabulated. The control group was higher overall in reading comprehension than the treatment group. A univariate analysis of variance for reading comprehension between participants yielded significant results of $p = .022$. Six students in the treatment group had an Instructional Reading Level (IRL) of one or

two on the pretest. No student in the control group had an IRL lower than three at the beginning of the study. Two students in the control group scored at grade level on the pretest. None of the students in the treatment group was at grade level.

The treatment group generated a mean score of 2.81 on the STAR pretest and a mean score of 3.50 on the STAR posttest. The mean scores for the control group reading comprehension tests were 4.75 and 4.25. Instructional reading levels in STAR range from one to twelve and correlate to grade levels. The treatment group gained almost a grade level in reading comprehension during the four-month period. The control group decreased reading levels.

The treatment group showed greater gains in reading attitudes than the control group after posttest administration (See Table 1). The results did not reach statistical signficance, but the treatment group improved thirteen percent in attitude and the control group improved over two percent.

Table 1

Summary of Data

	Treatment Group			Control Group		
Test	N	Mean	SD	N	Mean	SD
PreSTAR	16	2.81	1.22	12	4.75	1.42
PostSTAR	16	3.50	1.21	12	4.25	1.48
PreESTES	16	61.06	15.01	12	68.42	15.63
PostESTES	16	69.13	13.50	12	70.25	14.32

A univariate one-way analysis of variance for repeated measures was used for part of the statistical analysis. Pretests and posttests were measured over a four-month period for both treatment and control groups. The univariate variable of time had no overall effect on reading comprehension within subjects. However, a significant difference (F=7.557, p = .011) was found for attitude within subjects (See Table 2).

Table 2

Univariate Tests of Within Subjects Contrasts

Source	Measure	df	Sum of Squares	F	p
Time	Comprehension	1	6.576E-02	.181	.674
Time	Attitude	1	495.9227	.557	.011*
Time and Group	Comprehension	1	4.955	13.638	.001*
Time and Group	Attitude	1	46.811	.713	.406

* $p < .05$

Table 2 shows the interaction between time and group was highly significant in reading comprehension (F=13.638, p = .001). The significance stemmed from a discrepancy between the treatment group's increase in reading levels on the STAR

test and the control group's decrease in reading levels. No significant difference was found for attitude interaction between time and group.

A multivariate analysis of variance for repeated measures was used to analyze the two groups. As shown in Table 3, the time variable was significant (F=3.630, p = .042) within subjects. The interaction between the time and group was highly significant (F=6.562, p = .005) within subjects.

Table 3

Multivariate Tests of Within Subjects Contrasts

Effect	df	F	p
Time	1	3.630	.042*
Time and Group	1	6.562	.005*

*$p < .05$

The Mauchley's Test of Sphericity was conducted to ensure that F-tests were valid for one-way repeated measures. Mauchley's test yielded no significant results indicating the transformed dependent variables adhered to sphericity requirements.

Summary

Results of the data collection revealed statistically significant values in the areas of time and interaction between time and group. The treatment group showed

greater gains in reading attitude than the control group. The treatment group increased reading comprehension overall and the control group slightly decreased in reading comprehension levels.

CHAPTER 5

DISCUSSION AND CONCLUSION

Overview

The Accelerated Reader computerized reading management system was used in the study to determine if it affects reading achievement and attitudes of students with learning disabilities. Self-contained learning disabilities classes of sixth, seventh, and eighth grade students participated in the study. A treatment group used Accelerated Reader for the four-month period and a control group did not. All students were given the same assessment instruments in a pretest and posttest format.

Discussion

The study supports current literature that computerized reading management programs are effective in improving academic achievement and motivating students to read. Jim Trelease, author of The Read-Aloud Handbook, maintains that motivated students read more books and become more successful readers. Both groups in this study showed gains in attitude. However, the treatment group experienced a much higher percentage gain in attitude than the control group.

According to the Institute of Academic Excellence (1997), reading achievement improves when time is set aside for independent reading and monitoring.

Students in the treatment group spent varying amounts of time each day reading independently. It is unknown if the control group had regularly scheduled reading times.

The small sample size gave the research a pilot study base. A minimum of thirty participants in each group would be more desirable for statistical analysis. The study, however, provided important practical significance in studying the effects of Accelerated Reader.

Participants in both groups were students in self-contained learning disabilities classes. The control group was higher overall in reading comprehension. Two students in the control group had Instructional Reading Level (IRL) scores at grade level. Not all students in learning disabilities classes have difficulty in reading skills. Six students in the treatment group had an IRL score of one or two. The difference in reading abilities was responsible for the contrast in pretest mean scores of 2.81 for the treatment group and 4.75 for the control group.

The treatment group improved reading attitudes by 13 percent and reading achievement by .69 Instructional Reading Level (IRL) during the course of the study. The control group improved attitude by 2.6 percent but decreased overall reading level by .5 IRL. Based on the data, it appeared that use of the Accelerated Reader program yielded gains in reading achievement and attitude greater than reading instruction without Accelerated Reader with this group of students with learning disabilities.

One recommendation for a future study is to administer the posttest earlier in May. Many students changed their opinions from "Agree" to "Disagree" or "Strongly Disagree" on these statements of the attitude scale:

- Reading is a good way to spend spare time.
- A certain amount of summer vacation should be set aside for reading.

The last week of school appeared to affect attitudes for summer reading. Students marked the response of "Undecided" more often on the posttest than the pretest. They may have been distracted with end of the year activities and had difficulty focusing on the assessment.

Another recommendation is to extend the total time for the project. Four months is a short amount of time to change attitudes and learning growth.

An important factor to note was the overwhelming support for the Accelerated Reader program by the school administrators of the treatment group. School-wide participation in the program was maintained to encourage enthusiasm and commitment to the school goal of improving reading scores. The school media center offered a wide selection of Accelerated Reader titles for all instructional reading levels which potentially fostered positive attitudes within the treatment group toward reading.

Implications

Further studies are needed to address the following questions.

If use of the Accelerated Reader program improved the reading achievement of students with learning disabilities nearly one grade level in four months, what is

the possibility of improvement for a longer period of time? Is it reasonable to assume that students will improve two or more levels a year?

Can reading comprehension gains be sustained over a long period of time or will reading levels reach a plateau and begin to drop?

Will students maintain their posttest reading level over the summer break or will levels return to pretest scores?

Does use of the Accelerated Reader program change reading attitudes enough that students with disabilities seek to read on their own? Have students developed an actual appreciation for reading?

What is it about the use of the Accelerated Reader program that causes a change in achievement and motivation? Is it the computerized testing, the independent reading, the tangible rewards, the teacher's implementation, or all of these parts combined?

Do other reading management programs elicit the same gains in attitude and comprehension from students with learning disabilities?

Summary

In summary, despite the small sample and short period of time, this study provided evidence that students with learning disabilities can benefit from the use of Accelerated Reader. Data in the study supported the claim of Advantage Learning Company that the Accelerated Reader program develops reading skills and is an excellent motivational tool.

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Appendix A

Parental Letter and Consent Form

READING ACHIEVEMENT AND ATTITUDE
PARENTAL LETTER AND CONSENT FORM

Dear Parent,

I am a media specialist at Creekland Middle School in Gwinnett County and am pursuing an Educational Specialist degree at Georgia State University. I would like to conduct research with students in self-contained learning disabilities classes.

I am requesting your permission to allow your child to participate in a study of reading achievement and reading attitude. Each child in the study will be asked to complete a STAR reading test and a reading attitude survey at the beginning and end of the study. The total time required for the pretest and posttest is about forty minutes.

No foreseeable risks or physical discomforts are associated with this study. The research will not directly affect the students. Knowledge gained from the study will contribute to a better understanding of reading comprehension skills.

The data collected will be kept confidential and will not be reported in a manner that personally identifies the participants. Any specific information pertaining to your child will be destroyed within thirty days of completion of the study.

You may choose not to allow your child to participate in this study or you may decide to withdraw your child at a later date. No child will be penalized for non-participation or withdrawal from the program.

Please address any questions you have about this project to me, Louise Scott at Creekland Middle School, 770-338-4730, or my advisor, Dr. Shirley Tastad at Georgia State University, 404-651-0188. Thank you very much.

Sincerely,

Louise Scott

I have read and understand the above information and agree to allow my child to participate. My child has also read the consent form and agrees to participate in this study.

Name of Parent (Print name)	Signature of Parent	Date
Name of Student (Print name)	Signature of Student	Date

Appendix B

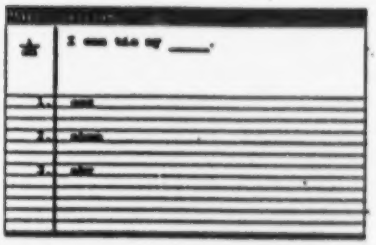
STAR Pretest Instructions

S.T.A.R. Pre-Test Instructions

Macintosh Version

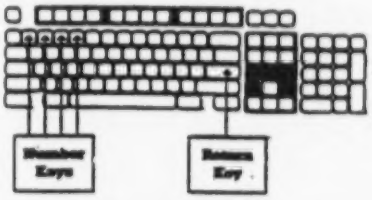
Teachers:
Please read these instructions to your students before they take their first test. You can use the enclosed materials in your presentation. Read each section exactly as it is printed so that students know what to expect at each stage of the test.

You are going to take a test called S.T.A.R. It is a reading test that has fill-in-the-blank questions. You will answer the questions on a computer. It will take about ten minutes to answer all of the questions. Don't worry if someone finishes their test before you do. All the tests are different.



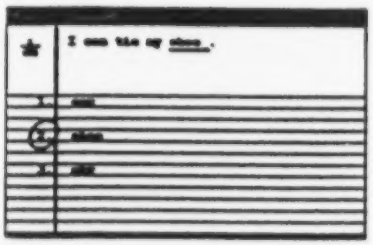
Picture 1

Each of the questions has a sentence with a word missing. There will also be a list of three or four words that could fit in the blank. Your job is to choose the word that best completes the sentence.



Picture 2

Choosing your answer is easy. Each answer has a number next to it. Just press the number on the keyboard that matches the number of your choice. Then press the return key.



Picture 3

When you press the number, a blue circle will appear around it. The blue circle shows you which answer you picked. *It does not mean that you have picked the correct answer.* The program also puts the word you picked in the blank so you can see how it fits in the sentence.

You can change your answer *before* you press the return key. Just press a different number on the keyboard. The program will draw a circle around your new choice and fill in the blank with the word so you can see it in the sentence. *You can not change your answer after you press the return key.*

Before you take the test, you will get to answer some practice questions. The practice questions look just like the real test, except they also have an instruction box to remind you how to pick an answer.

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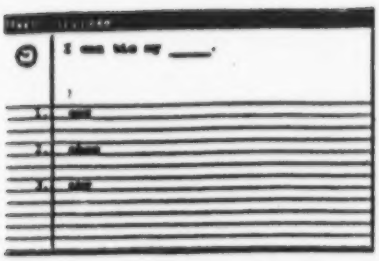
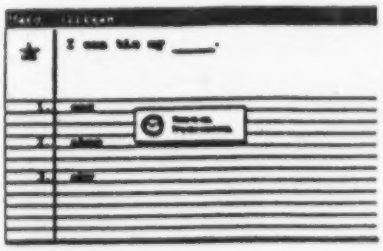


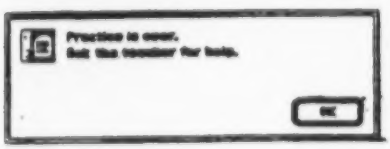
Picture 4

If you see a picture of a clock at the top left corner of the question screen, it means that time is almost up for that question. Press the number of your answer and the return key on the keyboard quickly.



Picture 5

If you don't choose an answer in time, you will see a message that says time has run out. The next question will come up in just a few seconds, so be ready.



Picture 6

If you see this message when you are practicing, raise your hand and call the teacher. He or she will know exactly what to do to get you ready for the test.

Continued next column

When you have finished all of the practice questions, the program will automatically start the test. Relax and get ready – the first question will come up soon. Keep answering questions until the program tells you that you have finished the test. If you don't know the answer to a question, go ahead and make your best guess. When you have finished the test, tell the teacher that you are done so the next student can take the test.

If you have any questions about this test, please ask them now. You can ask for help before you start the test and during the practice sessions. The teacher will not be able to explain any of the words or tell you if you picked the right answer during the actual test.

Have fun, and do your best!

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Appendix C

Estes Reading Attitude Scale

Name _____ Date _____

School _____

ESTES READING ATTITUDE SCALE

Directions: Read each statement and rate it on a scale from A to E as shown below. Please be as honest as possible. Your ratings will not affect your grade in any way.

		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1.	Reading is for learning but not for enjoyment.	A	B	C	D	E
2.	Money spent on books is well-spent.	A	B	C	D	E
3.	There is nothing to be gained from reading books.	A	B	C	D	E
4.	Books are a bore.	A	B	C	D	E
5.	Reading is a good way to spend spare time.	A	B	C	D	E
6.	Sharing books in class is a waste of time.	A	B	C	D	E
7.	Reading turns me on.	A	B	C	D	E
8.	Reading is only for grade grubbers.	A	B	C	D	E
9.	Books aren't usually good enough for me to finish.	A	B	C	D	E
10.	Reading is rewarding to me.	A	B	C	D	E
11.	Reading becomes boring after about an hour.	A	B	C	D	E

		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
12.	Most books are too long and dull.	A	B	C	D	E
13.	Free reading doesn't teach anything.	A	B	C	D	E
14.	There should be more time for free reading during the school day.	A	B	C	D	E
15.	There are many books which I hope to read.	A	B	C	D	E
16.	Books should not be read except for class requirements.	A	B	C	D	E
17.	Reading is something I can do without.	A	B	C	D	E
18.	A certain amount of summer vacation should be set aside for reading.	A	B	C	D	E
19.	Books make good presents.	A	B	C	D	E
20.	Reading is dull.	A	B	C	D	E

Estes, T. H. (1971). A scale to measure attitudes toward reading. Journal of Reading, 15, 135-138.

Appendix D

STAR Summary Report Example

02/04/99 S.T.A.R. Page 1
- Summary Report -

Grade: 6
Teacher: XXXXXXXX
Section:

Start Date: 08/10/98
End Date: 06/10/99
Sorted By: Student Name

Student Name	Grade	Teacher	Section	Test Date	IRL	GE	PR	NCE	Rank
XXXXXXXX	6		0	02/03/99	3	2.9	4	13.1	2
XXXXXXXX	6		0	02/03/99	4	5.6	32	40.1	1

Number of Students: 2

Appendix E

Estes Attitude Scale Measurement Table

Estes Attitude Scale Measurement Table

Response Values

Statements	A	B	C	D	E
Negative Statements: 1,3,4,6,8,9,11, 12,13,16,17,20	1	2	3	4	5
Positive Statements: 2,5,7,10,14,15,18,19	5	4	3	2	1

Response values are assigned to each statement. Reponses differ in value according to negative and positive statements. A student's total score is a quantitative measurement of his or her attitude toward reading.